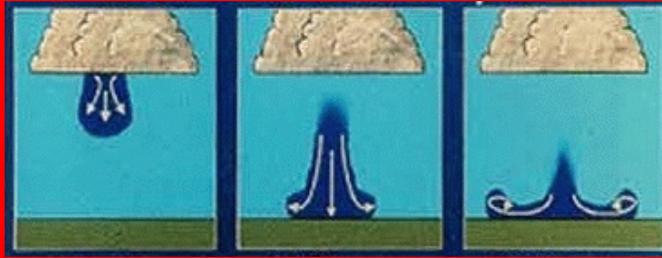


The Microburst



The Official Newsletter of the Tri-State SKYWARN Program
... Published by the National Weather Service, Upton NY ...

Volume 2, Number 2
January 2003

Winter 2002-2003 Edition

A Snowier Winter Than 2001-2002...and it's only January!

Winter started early this season, even if the calendar said it was still late fall when it got rolling. Does this mean we're looking at an active remainder of the "snow" season? We'll see...

Storm number 1 hit just before Thanksgiving (November 27). Southern Connecticut took the brunt of this storm with a band of generally 4-8 inches of snowfall extending from Danbury to Norwich and Putnam.

Storm number 2 (December 4-5) got much more of the area with a widespread snowfall, generally in the 4-8 inch range. Up to 11 inches was reported in parts of Orange County NY. This Nor'easter was the same system that brought a major ice storm to parts of the Carolinas.

Storm number 3, on December 11th, wasn't much of a snow producer, but it did produce icing conditions and a quick couple of inches of snow (on top of the ice) in Orange and Putnam Counties.

Storm number 4, the Christmas Day Storm, was quite a challenge to forecast,

with a range of less than 1 to 10 inches of snow reported across Suffolk County alone, and up to 19 inches in parts of Orange County. Thanks again for all of the reports!

The NWS sincerely thanks all of our spotters and other people who phoned or e-mailed us snowfall reports, especially during the December 4th-5th and 25th events. The number of reports that we received was amazing!

Bob Giglio (Regional Coordinator, N2JJM) and I (Scott, KC2JCB) "tag-teamed" on an informal "Snow Net" on the Suffolk Police Amateur Radio Club repeater for the early December event. For a net that wasn't announced until that afternoon, we got quite a few check-ins. It also gave us an opportunity to run a net (my first!), and to check out how well running a net via Echolink would work. It worked out fairly well, for little in the way of advanced notice to our spotters. We would like to thank the Suffolk Police Amateur Radio Club once again for use of the K2SPD repeater. Thanks also to those who offered to run nets, or those who did check in with reports from other nets.

These Amateur Radio Nets always provide quite a bit of information to the NWS forecasters. This was the case for the December 11th event. It was good to hear

from our friends in Orange and Putnam Counties. Keep up the great work!

Annual Coordinators Meeting

Our annual SKYWARN Coordinators meeting was held on Saturday, November 9th, here at the Brookhaven Labs. Twenty of our County Coordinators and Deputy Coordinators attended the meeting, which included a tour of the NWS facilities, and some lively discussions. Meeting topics included winter weather, amateur radio nets, revitalizing the NWS' amateur radio station, and a new SKYWARN recognition program. Some winter weather information will be discussed in this edition's Feature Section.

Coordinator Duties

One of the topics of conversation at the meeting revolved around what is expected of our coordinators (and the deputies), including Skywarn Net Control. The Coordinators need not and probably should not be the only hams to run the nets. Other hams should be encouraged to jump in and get involved. The coordinators need to be able to delegate the net responsibilities to others, especially if we were to get into longer-fused events (blizzards, flooding, etc).

We have begun putting a coordinators manual together, and should have a draft version ready by "Spring Training."

New Coordinators

Speaking of Coordinators, we have a new County Coordinator for Putnam County, Joel Rappaport WA2AWG. Joel has been a Deputy Coordinator for Putnam County for a number of years and helped get Skywarn off the ground up there a number of years ago.

Paul Beshlian KC2CJW is our new Deputy Coordinator for Passaic County. Paul is currently President of the 10-70 Repeater Group in northern New Jersey, one of the more active group in the Tri-State Skywarn Program, and has been a spotter for a number of years. He was also in the first class of Advanced Spotters in Bergen County last Spring.

The other new Deputy Coordinator is for eastern Suffolk County. Bobby Haase Jr. KC2HLQ, an active member of Southold Town ARES and RACES, and a member of the second Advanced Class of 2002, takes this new position.

We hope to have announcements for other vacant deputy positions in western Suffolk, Essex and New Haven Counties, as well as a Coordinator and deputy for Middlesex County by the beginning of the spring. Welcome to our new coordinators!

The NWS Upton Amateur Radio Station and Regional SKYWARN Nets

The Amateur Radio station at NWS Upton recently underwent an upgrade, thanks to a generous equipment donation from our Suffolk County Coordinator, Paul Beeman W2PB. Bill Scheibel N2NFI and his team of workers recently installed new antennas and cable for the existing radios and for our new 6-meter radio. Future plans include (hopefully) procuring a taller antenna tower which should greatly improve reception and transmission at the NWS office.

We are planning on making some changes to our SKYWARN Net operations in the near future. This includes the development of a 6-meter Coordinators Backbone Net, which will be used during "bigger events and activations" to collect reports. We hope to implement these

revisions this coming spring. More details will follow in early 2003.

Another New Feature...

We are introducing another new feature to this edition of "*The Microburst*"...10 Questions. For the Winter Edition, this section will include 10 questions from the Basic Spotter Class. There will be 5 bonus questions from the Advanced Spotter Class later in this Newsletter. Thanks to the Bergen County NJ SKYWARN Coordinators (and others) for the idea.

The questions are below...give them a shot and see how well you remember your spotter class training (or at least where to go and look for the answers). I will post the answers in a few weeks. For those with a burning desire to know the answers before they are posted, drop me an email with your answers...I'll send you "your grade."

10 Questions (Basic Class)

Can you make the grade?

1. What are the three ingredients necessary for thunderstorm development?
2. A severe thunderstorm can produce 3 different types of severe weather... name them.
3. A "rain foot" is associated with what severe weather phenomena?
4. (True/False) A shelf cloud maintains its position with respect to the thunderstorm's precipitation area.
5. (True/False) Windows should be opened with the approach of a tornado to equalize pressure and minimize damage.
6. (True/False) Most tornadoes in the U.S. fall are classified as F0 or F1 tornadoes on the Fujita Scale, which produce winds of 40-72 and 73-112 mph, respectively.
7. A Winter Storm Warning is issued for the expectation of (___) inches of snow and/or (___) inch of ice accretion.
8. Name 2 typical moisture sources for our area. (Bonus point if you name all 3 mentioned in the Basic Class.)
9. (True/False) Tornadoes only occur during the afternoon and evening hours.
10. A wall cloud slopes (____) from the precipitation and suggests (____) and (____).

Web Page Changes

Regular visitors to the NWS Upton Web Pages probably noticed that the SKYWARN section recently received a badly-needed facelift. (The URL is listed at the end of the newsletter as always.) We will attempt to keep these pages updated as much as possible.

Some of the features on the "new and improved" SKYWARN pages include links to the latest edition of "*The Microburst*," training schedules and class information, severe weather reporting criteria, coordinator and net information, as well as preparedness information. Check it out...

SkywarnPrepared

Another new link on the SKYWARN page is for our new recognition program.

The *SkywarnPrepared* program was developed to both recognize those groups that actively support the Tri-State Skywarn program, and to help promote the program. We already have received one application, and we know of at least one more in the works. **This is for both amateur radio organizations and non-radio organizations alike!** Program details and criteria are on the web page. Any further questions can be directed to Scott KC2JCB.

FEATURE SECTION ... WINTER 2002-2003

As one might expect, the feature section for this edition of "*The Microburst*" deals with winter weather. Even though winter weather has already made a few visits to the Tri-State region, it is still a good idea to review some winter preparedness and other winter-related facts.

Watch/Warning/Advisory ... New Criteria

The NWS instituted new Winter Storm Watch, Warning and Winter Weather Advisory criteria for this winter season. We now use average snowfall for a county (or portion thereof) when determining whether we will issue a Watch, Warning or Advisory.

Winter Storm Watch ... issued for the potential of Warning Criteria snowfall or ice accumulation within the next 36-48 hours.

Winter Storm Warning ... issued for severe winter weather conditions that have begun or will begin within 24 hours. There are 2 sets of criteria that the NWS will use, one for snowfall, and one for ice accumulation.

Upton Forecast Area Warning Criteria...

For snow ... **6 inches in a 12 hour period, OR 8 inches in a 24 hour period.**

For ice ... **½ inch of ice accretion.**

Winter Weather Advisory ... issued for winter weather conditions (snow, sleet and/or freezing rain/ice) that are expected to cause significant inconvenience and may be hazardous. If caution is exercised, these situations should not become life-threatening. The greatest hazard is often to motorists.

Upton Forecast Area advisory criteria...

For snow ... **at least 3 inches in a 12-hour period.**

For ice ... **any amount of ice accretion.**

Some other Winter Weather Terminology that the NWS will use...

Winter Weather Outlook ... A statement issued when winter storm conditions are possible within the next 3-5 days.

Blizzard Warning ... issued when snow and strong winds (35 mph or greater) will combine to produce blinding snow (visibilities less than 1/4 mile for at least 3 hours causing white-outs) and deep snow drifts.

Snow Squalls ... brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant. (Example: lake effect snows in the lee of the Great Lakes.)

Snow Showers ... snow falling at varying intensities for brief periods of time. Some accumulation is possible.

Snow Flurries ... Light snow falling for short durations with little or no accumulation.

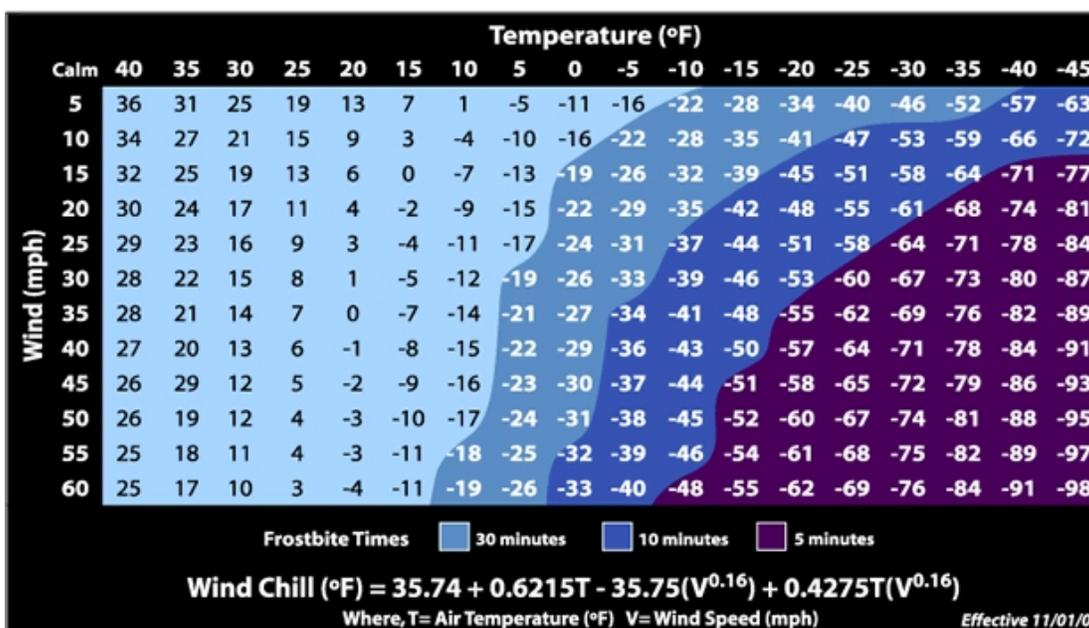
Wind Chill and Extreme Cold

Of course, snow and ice are not the only threats during the wintertime. Extreme cold can take a toll on the area at times. When discussing extreme cold, the terms wind chill, frostbite and hypothermia usually come to mind.

Wind Chill is not the actual temperature but rather how wind and cold feel on exposed skin. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature. Animals are also affected by wind chill; however, cars, plants and other objects are not.

Below is the new Wind Chill Chart that the NWS began using last winter. To calculate the wind chill temperature, simply select the wind speed and temperature on the chart, and where the wind speed row and temperature column meet is the wind chill temperature. (Or, you can use the formula given at the bottom of the table.)

Wind Chill Chart



Frostbite is damage to body tissue caused by extreme cold. A wind chill of -20° Fahrenheit (F) will cause frostbite in just 30 minutes. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes or the tip of the nose. If symptoms are detected, get medical help immediately! If you must wait for help, slowly rewarm affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia is a condition brought on when the body temperature drops to less than 95°F. It can kill. For those who survive, there are likely to be lasting kidney, liver and pancreas problems. Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness and apparent exhaustion. Take the person’s temperature. If it is below 95°F, seek medical care immediately!

If medical care is not available, warm the person slowly, starting with the body core. Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure. If necessary, use your body heat to help. Get the person into dry clothing and wrap in a warm blanket covering the head and neck. Do not give the person alcohol, drugs, coffee or any hot beverage or food. Warm broth is the first food to offer.

Some things to consider about injuries related to the cold...

- 1) 50 percent of injuries related to the cold happen to people over 60 years of age.
- 2) More than 75 percent of cold-related injuries happen to males.
- 3) About 20 percent of cold-related injuries occur in the home.

Winter Weather Forecasting Issues

Forecasting the weather in the Tri-State Region is always a challenge, no matter what time of year it is. Wintertime is no exception, with issues including precipitation type and flooding.

Flooding

Winter storms can directly (or indirectly) cause flooding in 4 different ways...coastal flooding; ice jams; snow melt, and heavy rainfall.

Coastal flooding is the result of winds generated by approaching winter storms and high tides. Widespread tidal flooding and severe beach erosion frequently occur with winter storms. This tidal flooding is typically aided by high astronomical tides (full moon, new moon).

Ice jams are caused when prolonged cold spells cause lakes, rivers or streams to freeze. A rise in water level or a thaw breaks the ice up into large chunks, which then become lodged, acting like a dam. These jams can occur at man-made obstructions (i.e. bridges) or at natural obstructions (i.e. sharp bend in or narrowing of a body of water).

Snow melt from sudden thawing of a heavy snow pack often leads to flooding, especially if this thaw is in conjunction with a **heavy rainfall**.

Precipitation type

Forecasting precipitation type is just as important as forecasting snowfall amounts. Heavy ice accumulations can down trees and utility poles, causing significant disruptions in communications and utilities.

To give an idea of what a meteorologist is considering while forecasting precipitation type during the winter, here's a quick chart to describe the atmosphere for differing precipitation types.



Rain
Frozen precipitation melts into rain

Freezing Rain
Frozen precipitation melts in warm air...
...rain falls and freezes on cold surfaces as a sheet of ice

Sleet
Frozen precipitation melts...
And refreezes into sleet before hitting the ground.

Snow
Snow is falling into cold air never melts

Winter Weather Preparedness

Here is some preparedness information to help you better deal with whatever "Old Man Winter" decides to dish out.

BEFORE THE STORM: Have the following available at home, just in case of a loss of power, heat, or telephone...

- ▶ Flashlights (and extra batteries).
- ▶ Battery-powered NOAA Weather Radio.
- ▶ Extra food, water, medicine and baby items. (DON'T FORGET ABOUT YOUR PETS!)
- ▶ First-aid supplies.
- ▶ Sufficient heating fuel.
- ▶ Emergency heat source.
- ▶ Fire extinguisher.

For your vehicle...make sure you have the following...

- ▶ A full tank of gas.
- ▶ Shovel, windshield scraper, sand or cat litter for traction, rope.
- ▶ First-aid kit, knife.
- ▶ Extra clothing, blankets.
- ▶ Food, container for water, waterproof matches.

WHEN CAUGHT IN A WINTER STORM:

If you're caught outside...

- ▶ Find shelter. (Try to stay dry and cover all exposed body parts.
- ▶ If no shelter is available...build a wind break for protection from the wind and build a fire for heat and to attract attention.
- ▶ Melt snow for drinking water. (Eating snow will lower your body temperature.)

In your vehicle...

- ▶ Stay inside. You can become disoriented very quickly in wind-driven snow and cold.
- ▶ Run the engine about 10 minutes per hour for heat, and keep the dome light on at night while running the engine.
- ▶ Keep a window open for fresh air and to avoid carbon monoxide poisoning.
- ▶ Make sure the exhaust pipe is not blocked.
- ▶ Tie a colored (red if available) cloth to a door or antenna.
- ▶ Raise the hood after the snow stops to indicate that you need help.
- ▶ Keep your blood circulating and keep warm by moving around from time to time (arms, legs, fingers, toes).

At home...

- ▶ Stay inside. Be sure to use fire safeguards and proper ventilation when using alternate heat sources (i.e. fireplace, wood stove, space heater).
- ▶ Close off unneeded rooms, cover windows at night.
- ▶ Eat and drink. Food provides the body with energy for producing it's own heat. Avoid dehydration.
- ▶ Wear layers of loose-fitting, lightweight clothing. Remove layers to prevent overheating, perspiration and subsequent chill.

AVOID OVEREXERTION !!!

Most of this winter weather information courtesy of "Winter Storms: The Deceptive Killers," a Preparedness Guide from the National Weather Service, in cooperation with the National Oceanic and Atmospheric Administration, and the American Red Cross.

5 Bonus Questions from the Advanced Class ...

1. Name three (3) sources of lift.
2. What is the difference between a microburst and a macroburst? (15 words or less, please.)
3. (True/False) If an airmass is stable, air which is pushed upward will continue up.
4. What does a "rain foot" depict? (25 words or less please.)
5. Name the local snowfall reporting criteria. (Hint: There are 5 answers.)

Parting Shots

It's tough to believe, but "Spring Training 2003" is just around the corner. The first class of the year will be in Babylon in late February, and we do expect to have classes through June. Unfortunately, we can't get to everyone that would like to host a class, but we'll do our best to cover as much of the area as we can, with the resources that we have available to us.

If the last training class that you attended was in 2000 or earlier, this is the year to get a refresher. This can be either the Basic or Advanced Class. If you haven't been trained since 1998 (or before), we will likely drop you from our spotters database this spring. If you have any questions regarding the class "contents," check out the Skywarn home pages and you'll find a brief class "syllabus" there. Or, just drop me a line if you have questions.

Gotta run, or as they say on the airwaves...73.

Scott R. KC2JCB

To Contact Us...

Via "Snail" Mail...

National Weather Service
Attn: SKYWARN
175 Brookhaven Ave., Building NWS-1
Upton, NY 11973

Via Phone (non-spotter reports)...
(631) 924-0517

Via E-Mail...

All Spotter Information Updates

okx.skywarn@noaa.gov

Or "snail mail" to Scott at above address.

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Submitting Spotter Reports...

Via E-Mail... okx.spotters@noaa.gov

Upton Web Page Reporting Form...
<http://www.erh.noaa.gov/okx/report.html>

800 Number...

(Sorry, we can't put it here. If you are a current spotter and need the number, email Scott and he'll send to you!)

Web Links...

NWS Upton NY
<http://www.erh.noaa.gov/okx/>

NWS Upton Winter Weather Page
<http://www.erh.noaa.gov/okx/winterweather.html>

NWS Upton Skywarn Page
<http://www.erh.noaa.gov/okx/skywarn.html>

NWS Homepage
<http://www.weather.gov>

NOAA Home Page
<http://www.noaa.gov>

Picture of the Issue...

“A Bergen County Winter Wonderland...”

*...courtesy Frank Ellsworth WB2SFN, Bergen County NJ Skywarn Spotter...
...via Mike Adams WA2MWT Bergen County Coordinator...*



The Microburst is the official newsletter of the Tri-State SKYWARN Program, and is published up to four times per year by the NWS Office in Upton NY. All editions are published to the Upton web page at <http://www.erh.noaa.gov/okx/>.